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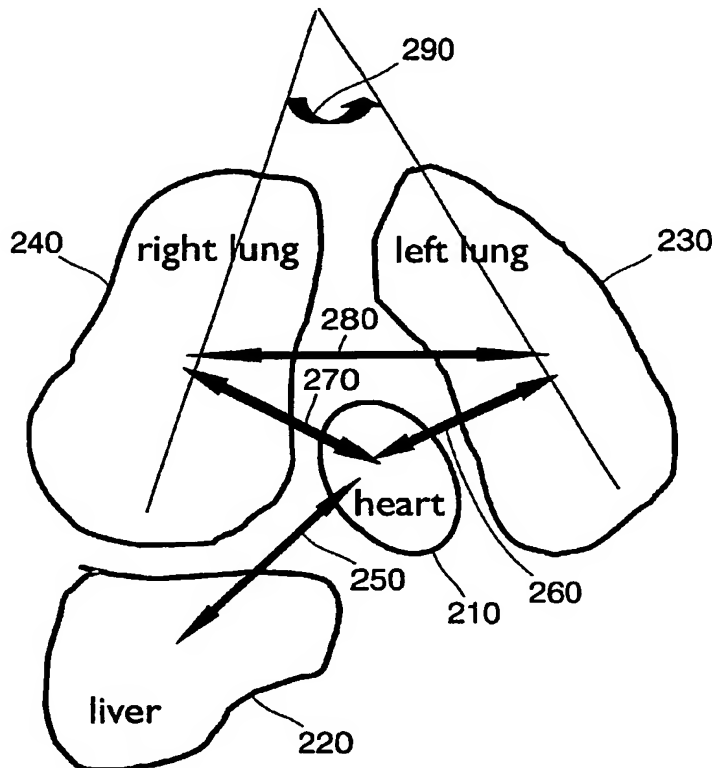
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(54) Title: **HIERARCHICAL IMAGE SEGMENTATION**



(57) Abstract: An apparatus 1000 includes an input 1010 for receiving an N-dimensional signal, $N \geq 2$. A storage 1030 stores a composite model of a composite structure for estimating parameters of the model with respect to the signal. The composite model is based on constituent models 210-290 that each correspond to a constituent structure in the signal and that are incorporated in the composite structure. Each constituent model is designated for estimating parameters of the constituent model with respect to the signal based on prior knowledge of the constituent structure. At least two of the constituent models are based on differing technologies. Each constituent model is provided with a uniform interface for controlling the constituent model and for retrieving parameters estimated by it. A processor 1020 is programmed to estimate the model parameters by controlling the constituent models to estimate their parameters; to retrieve estimated parameters from the constituent models; and to estimate parameters of the model in dependence on the retrieved parameters.

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